Wherein, what is claimed is:

1. A composition of matter for the transdermal administration of fenoldopam comprising fenoldopam and a permeation enhancing amount of a permeation enhancer in a carrier effective to permit sustained release of fenoldopam at a therapeutically effective rate in order to administer a therapeutically effective amount of fenoldopam in order to achieve and maintain therapeutic blood or plasma levels throughout a substantial portion of the administration period.

2. A composition according to claim 1 comprising a pharmaceutically acceptable salt of fenoldopam.

3. A composition according to claim 2 wherein the salt is fenoldopam mesylate.

4. A composition according to claim 3 wherein the permeation enhancer comprises myristyl sarcosine.

5. A composition according to claim 1 wherein the permeation enhancer comprises a monoglyceride.

6. A composition according to claim 5 further comprising a cosolvent selected from the group consisting of fatty acid esters, caproyl lactylic acid, lauroyl lactylic acid, and dimethyl lauramide.

7. A composition according to claim 6 wherein the monoglyceride is glycerol monolaurate and the cosolvent is selected from the group consisting of dodecyl acetate, lauryl lactate, isopropyl myristate, ethyl palmitate, and methyl laurate.

8. A composition according to claim 1 comprising:

(a) 5 to 50 weight % of fenoldopam;

(b) 5 to 40 weight % of a permeation enhancer; and

(c) 30 to 90 weight % of a polymeric carrier.

9. A composition according to claim 8 comprising 5 to 50 weight % fenoldopam base and 5 to 40 weight % of a permeation enhancer comprising a monoglyceride and a fatty acid ester.

10. A compositon according to claim 1 wherein the pH is maintained below 5.5.

11. A composition according to claim 10 wherein the pH is maintained with the range of 2 – 4.5.

12. A device for the transdermal administration of fenoldopam at a therapeutically effective rate, comprising:

(a) a reservoir comprising fenoldopam and a permeation enhancing amount of a permeation enhancer;

(b) a backing behind the body contacting-distal surface of the reservoir; and

(c) means for maintaining the reservoir in fenoldopam transmitting relation with a body surface or membrane, wherein a therapeutically effective amount of fenoldopam is delivered at a therapeutically effective rate during an administration period in order to achieve and maintain therapeutic blood or plasma levels throughout a substantial portion of the administration period.

13. A device according to claim 12 comprising a pharmaceutically acceptable salt of fenoldopam.

14. A device according to claim 13 wherein the salt comprises fenoldopam mesylate.

15. A composition according to claim 14 wherein the permeation enhancer comprises myristyl sarcosine.

16. A device according to claim 12 wherein the permeation enhancer comprises a monoglyceride.

17. A device according to claim 16 further comprising a cosolvent selected from the group consisting of fatty acid esters, caproyl lactylic acid, lauroyl lactylic acid, and dimethyl lauramide.

18. A device according to claim 17 wherein the monoglyceride is glycerol monolaurate and the cosolvent is selected from the group consisting of dodecyl acetate, lauryl lactate, ethyl palmitate, isopropyl myristate, and methyl laurate.

19. A device according to claim 12 wherein the reservoir comprises:

(a) 5 to 50 weight % of fenoldopam;

(c) 5 - 40 weight % of a permeation enhancer; and

(d) 30 to 90 weight % polymeric carrier.

20. A device according to claim 19 comprising 5 to 50 weight % fenoldopam base and 5 to 40 weight % of a permeation enhancer comprising a monoglyceride and a fatty acid ester.

21. A device according to claim 12 wherein the reservoir comprises a pressure sensitive adhesive which further acts as said means for maintaining the reservoir in fenoldopam transmitting relation with a body surface or membrane.

22. A method for treating an individual in need of fenoldopam therapy comprising transdermally administering fenoldopam and simultaneously coadministering a permeation enhancer to the individual wherein a therapeutically effective amount of fenoldopam is delivered at a therapeutically effective rate during an administration period in order to achieve and maintain therapeutic blood or plasma levels of fenoldopam throughout a substantial portion of the administration period.

23. A method according to claim 22 wherein 1 – 6 mg/day of fenoldopam are administered.

24. A method according to claim 23 wherein 2 – 3 mg/day of fenoldopam are administered.

25. A method according to claim 24 for the treatment of acute renal failure.

26. A method according to claim 24 for the treatment of chronic renal failure.

27. A method according to claim 22 wherein fenoldopam is administered at a rate of 20 – 5500 μg/hr.

28. A method according to claim 27 wherein fenoldopam is administered at a rate of 60 – 600 μg/hr.

29. A method according to claim 28 wherein the administration period is 24 – 72 hours.

30. A method according to claim 22 wherein a pharmaceutically acceptable salt of fenoldopam is administered.

31. A method according to claim 30 wherein the salt comprises fenoldopam mesylate.

32. A method according to claim 22 wherein the permeation enhancer comprises a surfactant sarcosine.

33. A method according to claim 32 wherein the permeation enhancer comprises myristyl sarcosine.

34. A method according to claim 22 wherein the permeation enhancer comprises a monoglyceride.

35. A method according to claim 34 further comprising a cosolvent selected from the group consisting of fatty acid esters, caproyl lactylic acid, lauroyl lactylic acid, and dimethyl lauramide.

36. A method according to claim 35 wherein the monoglyceride is glycerol monolaurate and the cosolvent is selected from the group consisting of dodecyl acetate, lauryl lactate, ethyl palmitate, isopropyl myristate, and methyl laurate.